REMARKS:

Applicants would like to thank the Examiner for the courteous interview for patent application No. 10/167,152. a continuation application of the present application, granted to them on October 14, 2003. Since claim 1 of the present application recites substantially the same limitations as recited in claim 26 of the continuation, Applicants hereby recite for the Examiner's convenience the interview summary that Applicants submitted for the continuation application.

INTERVIEW SUMMARY FOR PATENT APPLICATION NO. 10/167,152

At the interview, the faxed draft amendment was reviewed in view of Tateyama et al. (U.S. Patent No. 5,442,416). No agreement was reached at the interview as to any allowable claims.

(1) At the interview, the Examiner objected to the term "self-contained environment" as not being supported by an adequate description in the specification. Accordingly, in the above formal amendment, claim 26 has been further amended to remove the term "self-contained environment."

(2) The Examiner indicated at the interview that the claim limitation "duct" was shown in Takayama et al. Specifically, the Examiner stated that Takayama et al. showed an "entrance." As explained in the interview, "a duct" is not "an entrance." The dictionary meaning of "duct" is "a pipe, tube, or channel that conveys a substance" (Webster's Ninth New Collegiate Dictionary). The tubular duct is clearly shown with a reference number 16 in Figs 3, 4, 7, 8, 9, 10 and 11 of the present application. Takayama et al. is silent about the tubular duct.

(3) The Examiner also objected to the term "controlled-atmosphere" as not being supported by the specification. In the above amendment, Applicants have taken the term "a controlled atmosphere" from the claim preamble and moved the term to limitation (a), which now reads, "a plurality of hermetically closed chambers that each define an isolated environment inside which provides a controlled atmosphere." The term "controlled-atmosphere" is fully supported by the specification. In lines 1-5, page 8 of the specification and also illustrated in Fig. 4, the chamber 14 is characterized as a local clean room. The specification states,

> "FFU (fan filter units) 40 are provided on top of the roof panel 15a of the partition panel 15. The FFU 40 send (sic) a large amount of

air of high cleanliness than the outside. That is, the inside of the chamber 14 is a local clean room."

Thus, it is believed that the limitation that each chamber defines an isolated environment inside which provides a controlled atmosphere is supported by an adequate description in the specification.

END OF INTERVIEW SUMMARY

Turning to the Office Action dated July 15, 2003, claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tateyama et al in view of WO 98/19333, Hansen et al and Miller. Applicants respectfully submit that based on the amendments above, none of the cited references teaches or discloses "a hermetically closed chamber that defines an isolated environment inside which provides a controlled atmosphere" or "a plurality of ducts that each communicate the isolated environment of the hermetically closed chamber with the inside of one wafer processing apparatus."

As discussed in lines 1-5, page 8 of the specification and also illustrated in Fig. 4, the chamber 14 is a local clean room. The specification states,

> "FFU (fan filter units) 40 are provided on top of the roof panel 15a of the partition panel 15. The FFU 40 send a large amount of air of high cleanliness than the outside. That is, the inside of the chamber 14 is a local clean room."

By definition, a clean room may be characterized as defining an isolated environment which provides a controlled atmosphere. Processing of silicon wafers is usually performed inside a clean room because silicon wafers dislike contaminated by dusts or other impurities in the air. The specification states lines 23-26 on page 3,

> "For example, if the wafers are left for along time after performing a wafer clean[s]ing process before going on to the next coating process, dust may adhere to the wafers or the wafers may oxidize, thus reducing the yield."

In the present invention, wafers are transported inside the hermetically closed chamber. In other words, wafers are transported inside clean environments and can avoid being contaminated during their transportation.

Please also note that the hermetically closed chamber in the present invention defines an isolated environment, which is meant to be isolated from other spaces, including the processing spaces in the wafer processing apparatuses. Since the chamber is isolated, passages are necessary to move wafers between the hermitically closed chamber and the wafer processing apparatuses without exposing the wafers to dusts or other impurities present outside the hermetically closed chamber. In the present invention, ducts are provided that communicate the isolated environments of the hermetically closed chamber with the inside of the wafer processing apparatuses (limitation (c)). A robot arm moves wafers between the chambers and the wafer processing apparatuses through the ducts (limitation (e)). In the preferred embodiment, the specification states, lines 20-25, page 7, with reference to Fig. 3,

> "Additionally, a wafer insertion portion of each processing apparatus is connected to the chamber 14 by means of a duct 16a, 16b, 16c, , , ,16z. As a result, the wafer transfer robot 13 is able to exchange wafers between wafer processing apparatus inside a sealed space including the chamber 14 and duct 16a."

Thus, the insides of the ducts are a part of the clean room created in the chamber. The ducts extend the controlled atmosphere to the insides of the wafer processing apparatuses. Moved through the ducts between the chambers and the wafer processing apparatuses, the wafers can avoid being contaminated by dusts or other impurities present outside the chamber.

In the conventional wafer processing facility such as shown in Fig. 1, in order to keep wafers from being contaminated during their transportation between wafer processing apparatuses, the entire facility would have to be placed inside a clean room facility. This is not needed in the present invention. The specification states, lines 16-24, page 15,

> "Additionally, in the present embodiment, since the region over which the wafer is conveyed is only inside the chamber 14, it is sufficient to maintain a high degree of air purity only inside chamber 14 as a clean room. On the other hand, since the area

over which the wafers are conveyed is wide in the existing equipment shown in Fig. 1, the enter factory inside which the equipment is provided must be made into a clean room. In contract, in the present embodiment, it is sufficient to make the chamber 14 a clean room. Thus largely reducing the cost required to provide manufacturing equipment, and reducing the production cost of the product."

It is thus believed that claims 1-13 as amended above are patentable over the cited references.

Respectfully submitted,

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